

May 25, 2016

Ms. Denise Prunier  
NYSDEC  
Bureau of Air Resources  
625 Broadway  
Albany, NY 12233-3254

Re: 2015 Comprehensive Performance Test (CPT) Results  
Response to Comments

Dear Ms Prunier:

We are in receipt of your comments, dated April 1, 2016, on the Norlite CPT Report and Notification of Compliance (NOC). As described in the attached document, we have modified the report as requested with one exception. We provide for your consideration an answer to the Department's concern regarding the setting of operating limits based on Conditions 2 and 3. Should you not find our answer persuasive, we would like to arrange a meeting in order to come to an agreement on this issue. Please feel free to contact me with any questions regarding our response.

Sincerely,

Prince Knight  
Laboratory Manager  
NORLITE LLC

cc: D. Monk, Norlite  
T. LaGrimas, Norlite  
W. Morris, Consultant  
R. Stanton  
E. Wade  
T Christoffel, Region 4  
G. McPherson, Region 4  
Robert Buettner, EPA Region II  
Hans Buenning, EPA Region II

## Response to April 1, 2016 Comments on Norlite CPT Report and NOC

### Section 2.2.5; Table 2-2

We reserve our response to the stack gas flowrate/venturi scrubber pressure drop to the end of the document.

Norlite agrees with the request to change the LLGF atomization pressure from 36 psi to 56.4 psi as demonstrated during Condition 1 of the CPT.

Norlite also agrees with the request to change the total chlorine feedrate to 92.6 lb/hour.

These changes have been made to the text. The changes are also made to Table 4.9.

### Section 2.2.8

The calculation of the hazardous waste residence time is now presented in Section 2.2.8.

### Section 3.4.3; Appendix A

The referenced AWFCO check sheets are now available in Appendix A of the document. The other calibration sheets represent 244 pages and can be submitted electronically as a separate submittal or they can be inspected at the facility at your convenience.

### Section 4.3; Table 4-7

Norlite agrees with the Department on the calculation of the total chlorine feedrate. We have made the requested changes to the table.

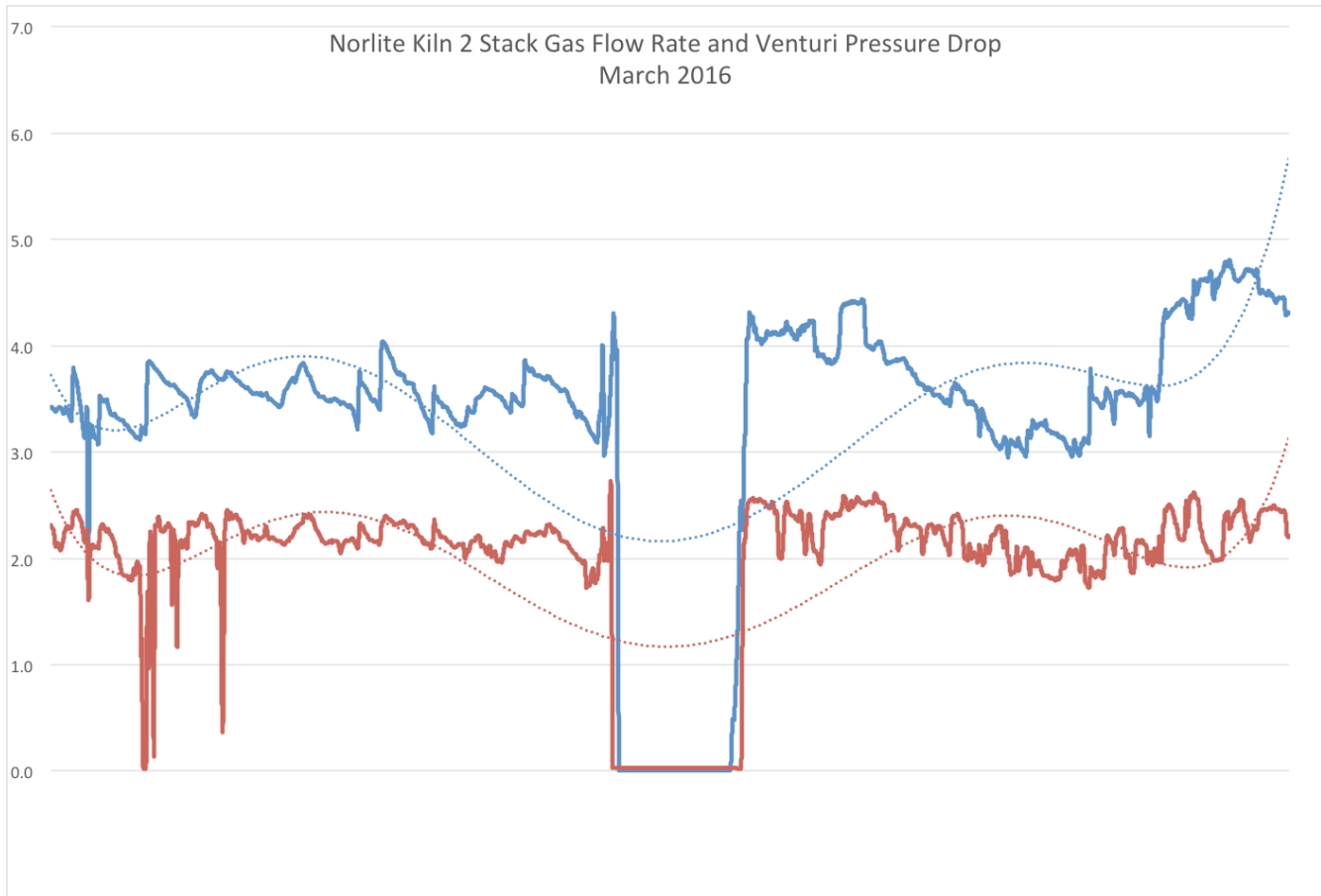
### Setting Stack Gas Flowrate and Venturi Scrubber Pressure Drop

The Department's April 1, 2016 comment document discusses how Norlite used a mixture of operating parameter limits (OPLs) derived from Conditions 2 and 3 to demonstrate compliance with the MACT standards for metals, PM and HCl/Cl<sub>2</sub> and that the two conditions, together, do not represent normal operating conditions for the kilns. Rather, Conditions 2 and 3 represent two different modes of operation of the kilns and separate OPLs would be required for each mode of operation as described in 40 CFR 63.1207(g). As such, the Department is requiring Norlite to set OPLs based on Condition 2 or Condition 3.

Norlite cannot agree with this request and does not agree that the differences between the OPLs established in Conditions 2 and 3 amount to different modes of operation as described in 40 CFR 63.1207(g). Conditions 2 and 3 were designed and implemented to define the extreme range of normal conditions for the kilns where two (2) OPLs, stack gas flowrate and venturi scrubber pressure drop, that are dependent upon one another. Such methodology is anticipated in the MACT as described at 40 CFR 63.1207(g).

The concern expressed by the Department is that there is an extreme variation in the parameter values. It is important to reiterate what was stated in the approved CPT Plan and the CPR Report that every effort was made to keep the other parameters, including feedrates, consistent with normal operations across Conditions 2 and 3. This means that the only true “moving parts” were the venturi pressure drop and the stack gas flowrate, both of which are essentially controlled by the induction fan. Since only this one variable was changed to demonstrate compliance with the emission standards at both ends of the normal operating range, it is difficult to see how this can be considered different modes of operation. If multiple parameters were being changed or if different equipment was being used or not used between the conditions, then Norlite would agree that we demonstrated compliance with the emission standards under different modes of operation.

While the values presented in Tables 2-2 for these parameters appear to be very different, they are still represent the middle of their respective operating ranges. For example, the operating “window” for the stack gas flow rate during the test was between 33,103 and 25,490 scfm. The complete operating range for stack gas flowrate is approximately 17,000 scfm to 48,555 scfm based on the maximum operating capacity of the 400 hp induction fan. The resulting venturi scrubber pressure drop over the full range of the induction fan’s operating curve would be between approximately 1.5 in w.c. and 8.0 in w.c.. Norlite’s established operating “window” is between 2.9 in w.c. and 6.1 in w.c.. We believe that this meets the intent of “extreme range of normal conditions” and does not represent different modes of operation. To support this conclusion, we present the table below.



The table is a plot of data from Kiln 2 for the full month of March 2016 for the stack gas flowrate and the venturi pressure drop. The stack gas flowrate (shown in red) has been divided by 10,000 in order to get it to appear on the same plot as the venturi pressure drop (shown in blue). Trend lines are provided for convenience. It is very evident that the correlation between the two data sets is very good. One does not move without the other. If the values were to change disproportionately, it would be an indication that the expected scrubber efficiency would be different at different flowrates. This does not appear to be the case. The emissions of the target contaminants are well below the MACT standards at both ends of this defined operating range so it is more than reasonable to conclude that the same removal can be expected throughout the defined operating range.

The Department has provided us with the September 2005 Technical Support Document, entitled *Volume IV: Compliance with the HWC MACT Standards. Section 23.6, Operating Under Different Modes*, unfortunately describes the situation where a source will have trouble complying with a high stack gas flowrate and a low venturi pressure drop yet provides no solution to the problem. The document fails to describe how defining separate sets of OPLs can be used to relieve the conflict. In one mode of operation, the scrubber pressure drop is lowered by reducing the stack gas flowrate. In the second mode, the stack gas flow rate is maximized resulting in a high scrubber pressure drop. This does not help the source in any way if a source is expected to comply with limits set in one mode or the other. The rest of the Section 23.6 describes where a

source is actually changing modes of operation and varying the equipment they are using in the process. In this situation, the setting of different OPLs for different modes of operation makes sense. For Norlite, this would be the equivalent of operating on two baghouse modules, rather than three, or changing the raw material from processed shale to pelletized clay.

Norlite has defined an operating envelope that puts the stack gas flowrate and the venturi pressure drop in the middle of the full range of possible operation simply by varying the fan speed through its normal operating range. By doing so, this does not equate to different modes of operation that require separate sets of OPLs.